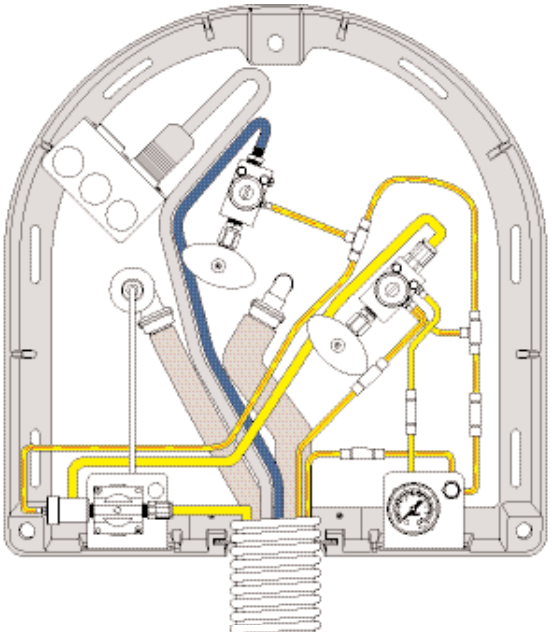


The A-dec 500 floor box is needed if a delivery system, assistant's instrumentation, or a cuspidor is installed. The floor box is mounted over the utilities on the floor of the treatment room and contains the air and water manual shutoff valves, filters, air and water regulators, pressure pre-regulator, vacuum, and gravity drains as well as electrical outlets.

This section provides information related to servicing, maintenance, and adjustments. Detail on how to service the floor box and troubleshoot specific problems is presented. For information on service parts, see the *Genuine A-dec Service Parts Catalog* or contact A-dec customer service.

How the Floor Box Functions

Air and Water Manual Shutoff Valves

Shutoff valves supply the air and water to the unit. To prevent leaks, these valves should remain fully open (turned counterclockwise) except while the unit is being serviced.

Gauge and Pre-Regulator

The pre-regulator controls the air and water pressure in the unit. The gauge displays the unit air pressure.

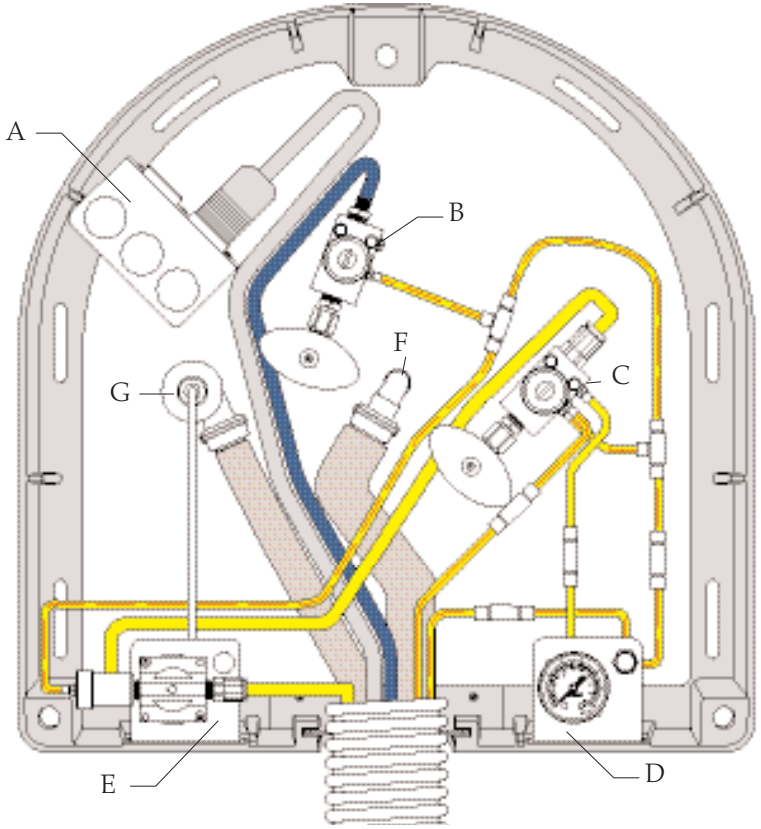


Figure 96. Identification of the floor box utilities. (A) electrical duplex outlet; (B) water filter regulator; (C) Air filter regulator; (D) gauge and pre-regulator assembly; (E) moisture separator; (F) vacuum drain; (G) cuspidor drain

Filter Element

A clogged filter will reduce the amount of air and water pressure available to the unit.

1. Move the master On/Off toggle to OFF.
2. Close the manual shutoff valves.
3. Bleed the system of air and water pressure by operating the syringe buttons until air and water no longer flow.
4. Remove the filter housing from the air and/or water regulator assembly with a flat blade screwdriver.
5. Replace the filter if it is visibly clogged or discolored.
6. Install the new filter with the beveled edge toward the manifold.

NOTE: The system will not work properly if the filter is installed incorrectly.

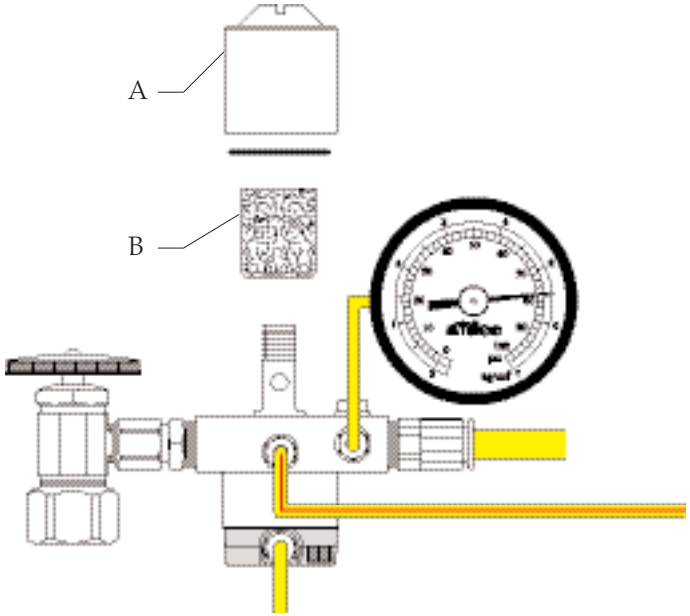


Figure 97. Replace the filter by removing the filter housing and installing the new filter beveled edge down. (A) filter housing; (B) new filter

Air and Water Filter Regulators

The air and water filter regulators combine air-actuated shut-off valves with filter assemblies. The filter regulators automatically shut off air and water to the system when the master On/Off toggle is in the Off position. This safety feature prevents water damage in the event of a water leak while the unit is unattended. The filters prevent solids from entering the unit.

Item #	Part Number	Description
1	004.005.02	Washer, flat, nylon .187 ID, pkg 10
2	023.004.03	Barb, 1/8" x 10-32", pkg 10
3	001.026.00	Screw, 6-32" x 7/8", socket head
4	24.0137.01	Gasket, 9-hole, pkg 10
5	24.0162.00	Manifold, filter/regulator
6	021.042.00	Adapter, 1/8" MPT to 3/8"
7	24.0232.00	Stud, filter regulator/manifold assembly
8	24.0234.01	Filter element, filter/regulator, pkg 6
9	030.019.03	O-ring
10	24.0229.00	Housing, filter
11	021.016.04	Plug, hex 10-32", pkg 10
12	022.088.00	Fitting, push in, 5/16" x 1/8"
13	023.804.00	Barb, 5/16" x 1/8"

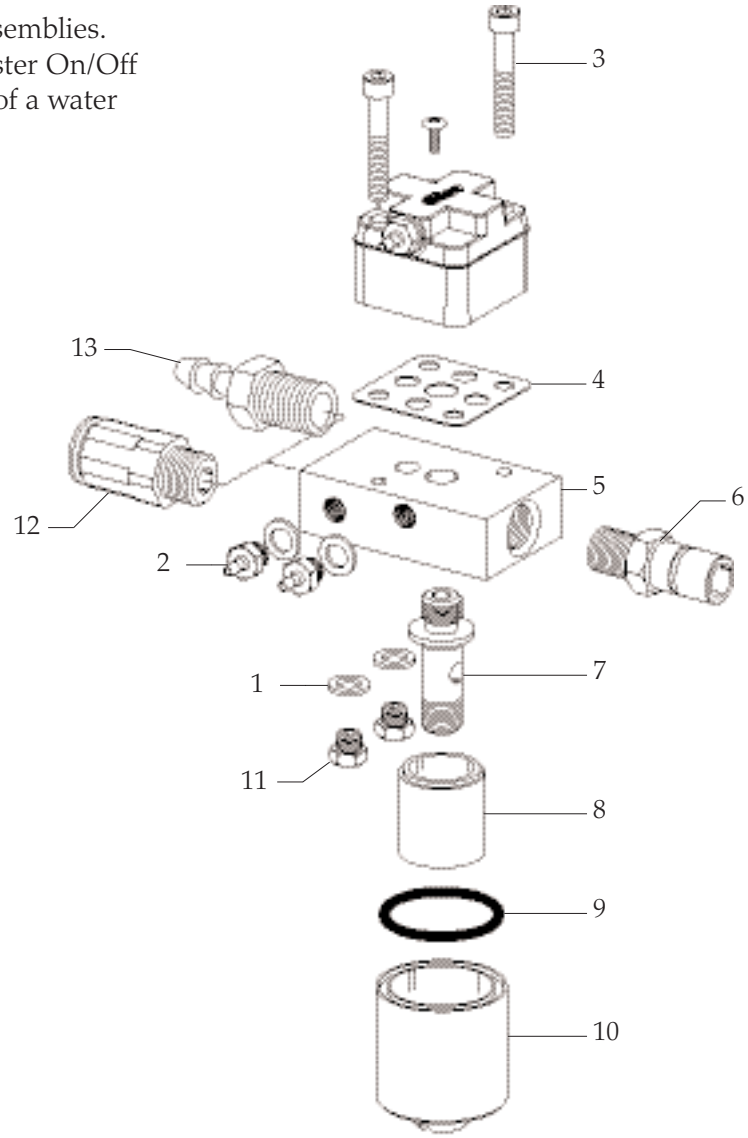


Figure 98. Identification of the air and water filter regulator components.

Air and Water Filter Regulators Body Assembly

Item #	Part Number	Description
1	001.024.00	Screw, socket head, 4-40" x 3/8" SST
2	001.021.00	Screw, socket head, 4-40" x 1/2" SST
3	24.0368.00	Valve cover
4	004.005.02	Washer, flat, nylon .187 ID, pkg 10
5	023.004.03	Barb, 1/8" x 10-32, pkg 10
6	22.0440.02	Diaphragm, pkg 10
7	24.0142.00	Plunger
8	24.0140.00	Spacer, water regulator
9	24.0132.00	Piston with O-ring, Delrin
10	013.032.00	Spring, compression .250/.350 OD (water)
11	22.0460.00	Spring, conical (air)
12	24.0135.00 24.0355.00	Body, regulator, white (air) Body, regulator, black (water)

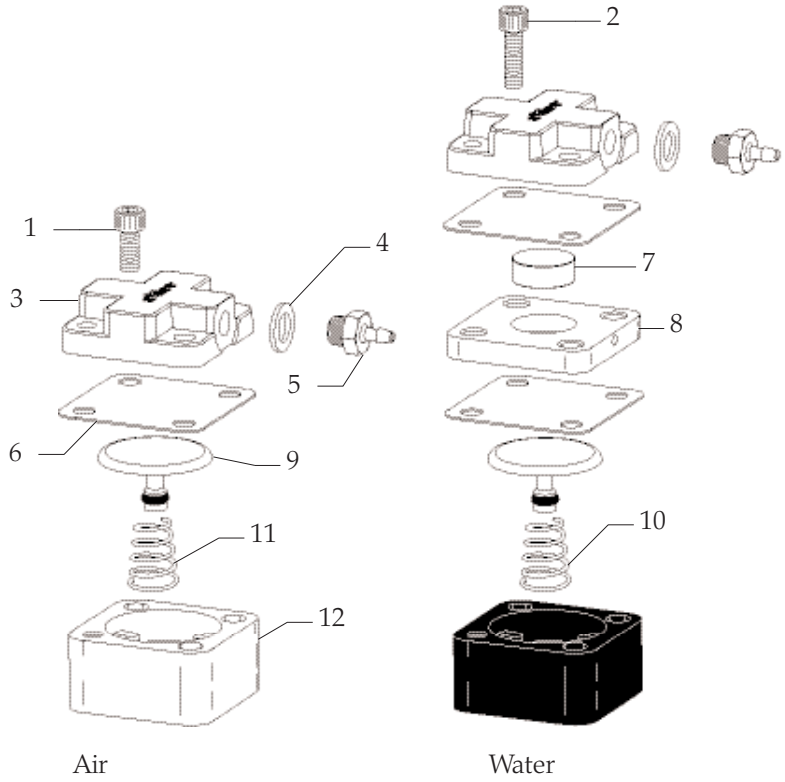


Figure 99. Identification of the air and water filter regulator body assembly components.

A-dec Moisture Separator

The moisture separator is used to separate moisture from the compressed air.

Item #	Part Number	Description
1	026.173.00	Moisture separator, auto
2	41.1469.01	Diaphragm, .75" OD x .013", pkg 5
3	004.005.02	Washer, flat nylon, .187 ID, pkg 10
4	023.004.03	Barb, 1/8" x 10-32, pkg 10
5	023.804.00*	Barb, 5/16" x 1/8"
6	023.066.00	Barb, 1/8" x .206-36
7	022.088.00*	Fitting, push in, 5/16" x 1/8"
8	24.0472.00	Bracket, gauge/moisture separator
9	001.033.00	Screw, socket head, 6-32" x 3/8"

* Item not for sale.

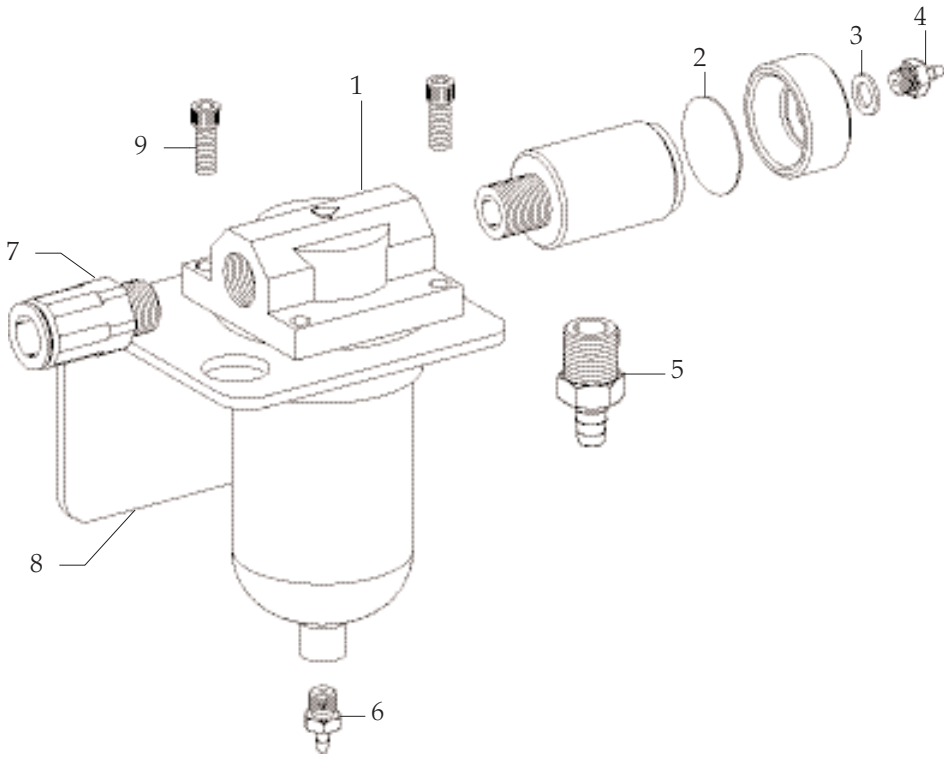


Figure 100. Identification of the moisture separator components.

Floor Box Master On/Off Toggle (P/N 90.1088.00)

The floor box can have a master On/Off toggle kit installed for units that have a support side system, but no delivery system.

To install the master On/Off toggle valve assembly:

1. Drill a 15/32" diameter hole in the floor box base.
2. Install the master toggle valve assembly (Refer to the *Master On/Off Toggle Flow Diagram*).
3. Disconnect the master air line from the in-line fitting on the air filter/regulator assembly (this will not be used).
4. Connect the master toggle to the master air line.
5. Connect the pilot air tubing to the pilot air fitting on the chair air/water manifold.

NOTE: Plug the master port to the delivery system on the chair air/water manifold.

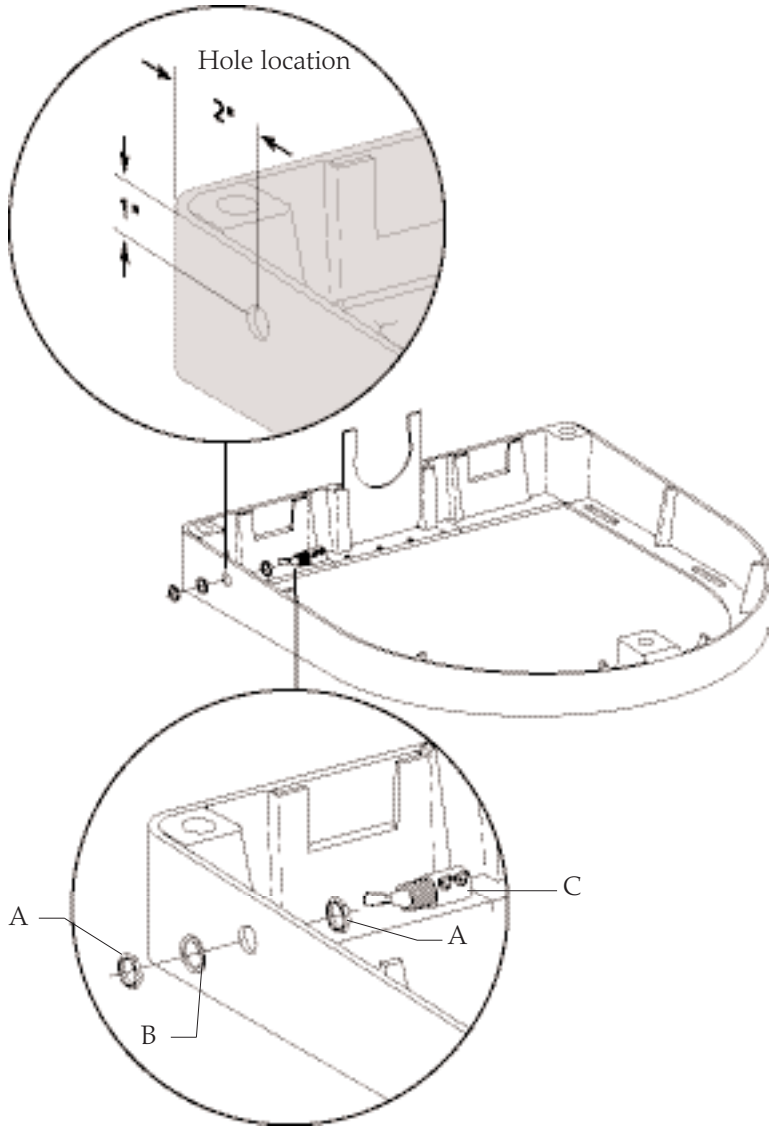
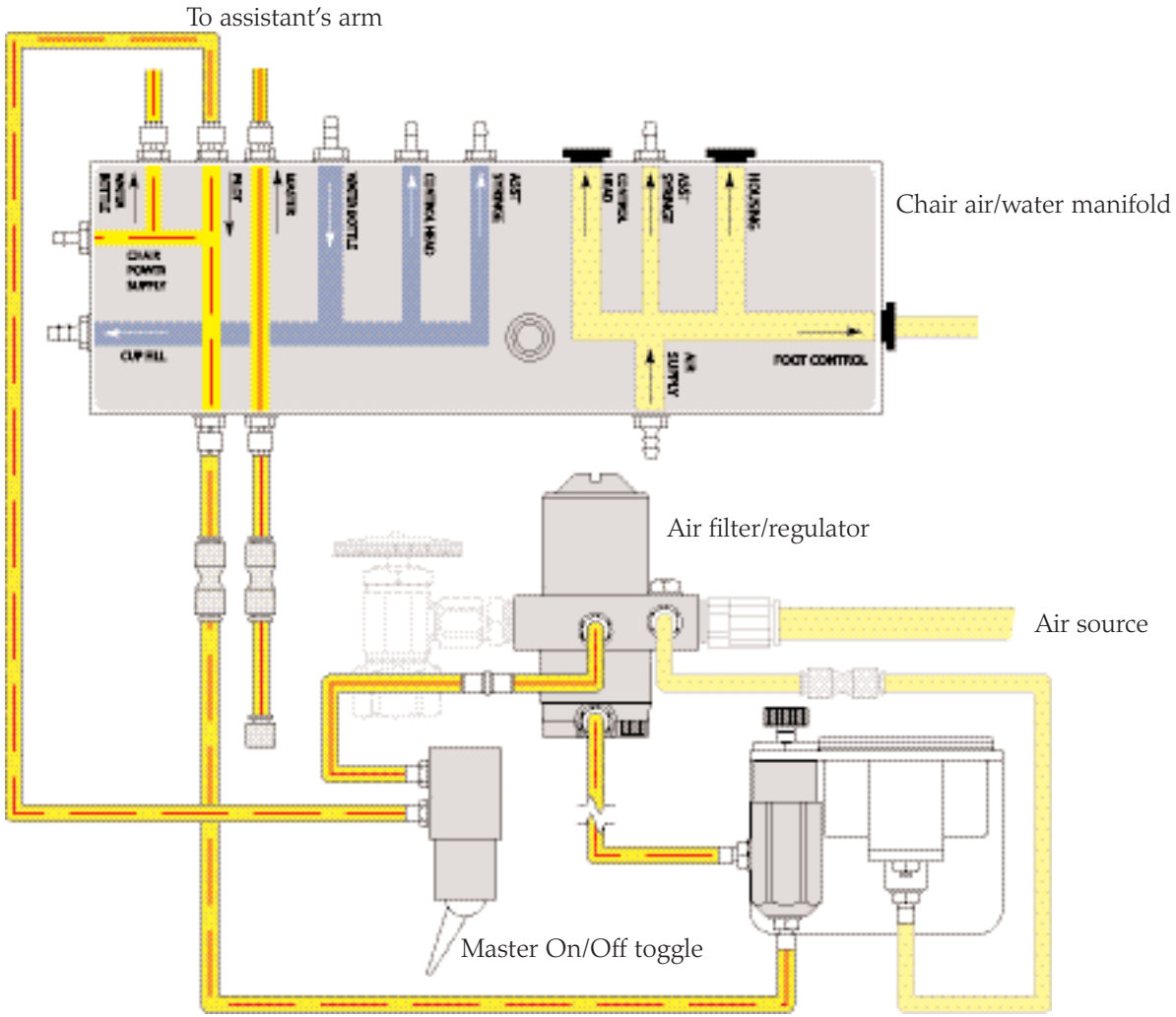


Figure 101. Floor box master On/Off toggle.
(A) nut; (B) washer; (C) toggle valve

Master On/Off Toggle Flow Diagram



How to Troubleshoot the Floor Box

Tips and troubleshooting information are listed in the table to assist in diagnosing floor box problems. This table is not intended to cover every situation, but does include the most common problems that may be encountered.

Problem	Possible Cause	Action
Unit air pressure drops when unit is in use	Plugged filter element in air filter/regulator	• Flip the master On/Off toggle to the On position and remove the floor box cover. • Locate and observe the air pressure gauge in the floor box while pressing the syringe air button. If the air pressure drops more than 15 psi, the air filter is clogged. Replace filter.
Low unit water pressure, unit air will not shut off	Plugged filter element in the water filter/ regulator assembly, or a plugged water filter screen in the manual shutoff valve	• Flip the master On/Off toggle to the On position and then remove the floor box cover. • Locate and observe the water pressure gauge in the floor box and press the syringe water button. If the water pressure gauge drops more than 10 psi, the water filter element and/or the water filter screens are clogged and must be replaced. Inspect the water filter screen. • With the master On/Off toggle in the Off position, close the manual shutoff valves. Bleed the system of air and water pressure. • Loosen the compression nut to remove the water filter regulator assembly. Remove and discard the filter screen. • Install a new filter screen and reinstall the water filter regulator assembly. Tighten the compression nut. • Open the water manual shutoff valve and flip the master On/Off toggle to the On position. Check the fitting for leaks.